

## New England Biolabs Certificate of Analysis

**Product Name:** yDcpS  
**Catalog Number:** M0463S  
**Concentration:** 200,000 U/ml  
**Unit Definition:** One unit is defined as the amount of yDcpS required to convert 50% of a 500 nM m7G-capped substrate to a 5'-diphosphorylated form in a total reaction volume of 20 µl in 1 hour at 37°C.  
**Packaging Lot Number:** 10056949  
**Expiration Date:** 10/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl , 300 mM NaCl , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0463S v1.0

yDcpS Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0463SVIAL	yDcpS	10056948	Pass
B0463AVIAL	10X yDcpS Reaction Buffer	10044009	Pass

Assay Name/Specification	Lot # 10056949
<p><b>RNase Activity Assay (4 Hour Digestion)</b>            A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 200 units of yDcpS is incubated at 37°C. After incubation for 4 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	Pass
<p><b>Protein Purity Assay (SDS-PAGE)</b>            yDcpS is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p><b>Phosphatase Activity (pNPP)</b>            A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl<sub>2</sub> containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 200 units of yDcpS incubated for 4 hours at 37°C yields &lt;0.00001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	Pass
<p><b>Exonuclease Activity (Radioactivity Release)</b>            A 50 µl reaction in yDcpS Reaction Buffer containing 1 µg of a mixture of single and</p>	Pass

Assay Name/Specification	Lot # 10056949
<p>double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 200 units of yDcpS incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p> <p><b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in yDcpS Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 200 units of yDcpS incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	<p><b>Pass</b></p>

This product has been tested and shown to be in compliance with all specifications.



Jessica Cane  
Production Scientist  
10 Oct 2019



Michael Tonello  
Packaging Quality Control Inspector  
25 Oct 2019